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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,049	06/15/2001	Holger Birk	016790-0428	5169

22428 7590 12/29/2003

FOLEY AND LARDNER  
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3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

HEALY, BRIAN

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/881,049

Applicant(s)

BIRK ET AL.

Examiner

Brian M. Healy

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Brian Healy

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## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 2,3 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the references of record teaches the step of adjusting the pulse width of the light pulses and an optical element consisting of photonic band gap material, as is recited in claims 2,3 and 6.

Claim 13 is allowed over the prior art of record. None of the references of record teaches or suggests the claimed microscope including an illumination pin hole, detection pinhole and an essentially polarization independent and wavelength independent beam splitter.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,4,5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Epstein et. al., U.S.P. No. 4,011,403.

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Epstein et. al. '403 teaches (Fig.1) a method and apparatus for illuminating an object 60 comprising the following steps: generating a light beam with a laser 20,32, injecting/shaping the light beam with an optical element in the shape of tapered optical fiber 50,54 and an optical means for shaping the light beam in the form of lens 44, which clearly, fully meets Applicant's claimed limitations.

4. Claims 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Betzig et. al., U.S.P. No.5,272,330.

Betzig et. al. 330' teaches (Figs.1-11) an illuminating confocal scanning microscope device comprising: a laser 10, an optical fiber 70 with a tapered microstructured end portion 250 placed in a casing 20, 280 wherein the light(or entangled photons) from the tapered end portion is spectrally broadened, which clearly, fully meets Applicant's claimed limitations.

### ***Priority***

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), however the certified copies of the priority documents have not yet been received.

The following references are also cited by the Examiner as being pertinent prior art: Birk et. al., U.S.P. No.6,611,643 (Note entire reference.) and Betzig et. al., U.S.P. No.5,286,970

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(Note entire reference), U.S.P. No.5,286,971 (Note entire reference.), U.S.P. No.5,288,998

(Note entire reference) and U.S.P. No.5,288,996 (Note entire reference.)

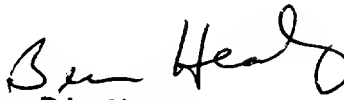
Any questions concerning this office action should be directed to:

**Brian M. Healy**

**Primary Examiner**

**Art Unit: 2874**

**Phone:(703)308-2693**

  
**Brian Healy**  
**Primary Examiner**